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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/488,149	01/20/2000	Wayne V. Sorin	10991682-1	4013

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[REDACTED] EXAMINER

WANG, GEORGE Y

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2871

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/488,149	SORIN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	George Y. Wang	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 15 July 2003.

2a) This action is FINAL.                  2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-4, 11, 12, 14 and 15 is/are rejected.

7) Claim(s) 5-10, 13 and 16-20 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 20 January 2000 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____ .

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-4, 11-12, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA (Applicant's Admission of Prior Art) and Sorin (U.S. Patent No. 5,365,335) in view of Hasegawa et al. (U.S. Patent No. 4,553,264, from hereinafter "Hasegawa") and Evans et al. (U.S. Patent No. 4,048,573, from hereinafter "Evans").

AAPA (pg. 1, lines 14-31) and Sorin discloses a device and method of monitoring an optical signal utilizing a heterodyne detection (fig. 3, ref. 200) comprising steps of providing an input signal (fig. 3, ref. 214), a local oscillator signal (fig. 3, ref. 220), combining them (fig. 3, ref. 216), detecting the combined signal (fig. 3, ref. 12) of heterodyne, intensity and shot noise, and generating an output signal that is indicative of an optical parameter of input signal and includes monitoring a heterodyne signal. Sorin discloses an attenuator (fig. 3, ref. 240) that utilizes information from a feedback circuit (col. 2, lines 38-43) from the output to validate noise reduction via electronic and optical processing.

However, AAPA and Sorin fail to disclose an attenuator positioned before heterodyne signal combination.

Hasegawa discloses a heterodyne tuner with an attenuator positioned immediately after the input (fig. 8, ref. 62).

Evans discloses amplification improvements that include attenuation at the input (fig. 1; abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have positioned the attenuator of Sorin immediately after the input port and before the signal combination as suggested by Hasegawa since the noise intensity from the input signal is usually a dominant noise source (fig. 8, ref. 62).

Although the placing the attenuator immediately following the input signal achieves the same functional purpose as placing it after the coupler to provide attenuation feedback, it is clear that placing it at the site of dominant noise generation would render it more

advantageous and beneficial because attenuators are well known in the art and are widely used to reduce noise levels. Therefore, maximizing signal to noise ratio at the dominant noise source would have been obvious to do for any optical system (Evans, abstract).

#### ***Allowable Subject Matter***

3. Claims 5-10, 13, and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: As the claims were read and interpreted in light of the specification, the prior art of record fails to specifically disclose a heterodyne detection device and method of using that incorporates an attenuator with adjustable levels of attenuation with a step that includes sweeping at an oscillating wavelength range and another step that completely blocks transmission of input in order to calibrate coupler or receiver as a function of wavelength.

#### ***Response to Arguments***

4. Applicant's arguments filed 15 July 2003 have been fully considered but they are not persuasive.

Applicant's argument is targeted against the suggested motivation to combine the references in the above rejection. Applicant is not convinced and argues against the

motivation of the statements, "attenuators are well known in the art and are widely used to reduce noise levels" and "the noise intensity from the input signal is usually a dominant noise source," as being not suggestive for combination. However, Examiner points out that the use of the reference does provide a reason to rearrange the attenuator of Sorin, which is to place it immediately after the input. As the applicant admits, the Sorin reference is clear in teaching that "attenuation can be used at different locations within an optical system to improve signal to noise ratio" (pg. 9, lines 15-17). So Examiner argues that the statement that attenuators are well known in the art and widely used to reduce noise levels is relevant, especially in light of the Evans reference, which is directed toward attenuation at the input. For this reason, it is clear that an attenuator is not only able to reduce noise levels or maximize signal to noise ratio, but able to do so at the input or the dominant noise source. This is the motivation behind the suggestive combination that Applicant has misinterpreted. Therefore, Examiner holds to the validity and motivation behind the combination of the references and maintains rejection.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 703-305-7242. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

gw

  
T. Choncky  
Primary Examiner